

IN THE CLAIMS:

Please amend claims 1, 8, 10, 11, and 25 herein. Please cancel claims 4, 9, 29, and 34 without prejudice or disclaimer. Please note that all claims currently pending and under consideration in the above-referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A reactive material, comprisingconsisting essentially of:
at least one fuel comprising a metal compound selected from the group consisting of hafnium, tantalum, nickel, zinc, tin, silicon, palladium, bismuth, iron, copper, phosphorous, aluminum, tungsten, zirconium, magnesium, boron, titanium, sulfur, magnalium, and mixtures thereof, wherein the at least one fuel is present at from approximately 10% by weight of a total weight of a reactive material to approximately 90% by weight of the total weight of the reactive material; and
at least one oxidizer comprising a at least one fluoropolymer selected from the group consisting of polytetrafluoroethylene, a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride, a copolymer of vinylidenefluoridehexafluoropropylene, and mixtures thereof, wherein the at least one fluoropolymer is present in the reactive material at from approximately 5% by weight of the total weight of the reactive material to approximately 74% by weight of the total weight of the reactive material.; and
wherein the reactive material is suitable for use in a reactive material munition, is formulated to provide at least one of an overpressure of greater than approximately 9 pounds per square inch at a radial measurement of 12 inches from a point of impact on a target, a hole greater than approximately 2 square inches at an optimum penetration level in a target, and pressure, damage, and a flame when the reactive material munition impacts a target, and is present in the reactive material munition in a sufficient mass to provide at least one of these properties.

2. (Original) The reactive material of claim 1, wherein the at least one fuel is selected from the group consisting of a metal, a fusible metal alloy, an organic fuel, and mixtures thereof.

3. (Original) The reactive material of claim 1, wherein the at least one oxidizer is selected from the group consisting of an inorganic oxidizer, sulfur, a fluoropolymer, and mixtures thereof.

4. (Canceled)

5. (Withdrawn) The reactive material of claim 1, wherein the at least one fuel comprises an organic fuel selected from the group consisting of phenolphthalein, hexa(ammine)cobalt(III)nitrate, and mixtures thereof.

6. (Withdrawn) The reactive material of claim 1, wherein the at least one fuel comprises a fusible metal alloy including at least one metal selected from the group consisting of bismuth, lead, tin, cadmium, indium, mercury, antimony, copper, gold, silver, and zinc.

7. (Withdrawn) The reactive material of claim 1, wherein the at least one fuel comprises a fusible metal alloy having a constituency of about 57% bismuth, about 26% indium, and about 17% tin.

8. (Withdrawn-Currently Amended) The reactive material of claim 1, ~~wherein the at least one oxidizer is further comprising a compound~~ selected from the group consisting of ~~ammonium perchlorate, potassium perchlorate, potassium nitrate, strontium nitrate, basic copper nitrate, cupric oxide, iron oxide, bismuth trioxide, tungsten oxides, molybdenum trioxide, and mixtures thereof.~~

9. (Canceled)

10. (Withdrawn-Currently Amended) The reactive material of claim 1, wherein the further comprising at least one class 1.1 explosive is-selected from the group consisting of trinitrotoluene, cyclo-1,3,5-trimethylene-2,4,6-trinitramine, cyclotetramethylene tetranitramine, hexanitrohexaazaisowurtzitane, 4,10-dinitro-2,6,8,12-tetraoxa-4,10-diazatetracyclo-[5.5.0.0^{5,9}.0^{3,11}]-dodecane, 1,3,3-trinitroazetine, ammonium dinitramide, 2,4,6-trinitro-1,3,5-benzenetriamine, dinitrotoluene, dinitroanisole, and mixtures thereof.

11. (Currently Amended) The reactive material of claim 16 claim 1, further comprising at least one binder selected from the group consisting of polyurethanes, epoxies, silicones, glycidyl azide polymers, polyesters, nylons, cellulose acetate butyrate, ethyl cellulose, graphite, (bis(2,2-dinitropropyl)acetal/bis(2,2 -dinitropropyl)formal), and mixtures thereof.

12. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises tungsten, potassium perchlorate, and a copolymer of vinylidenefluoridehexafluoropropylene.

13. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises bismuth, indium, tin, potassium perchlorate, cellulose acetate butyrate, and (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl)formal).

14. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises aluminum, zirconium, and a copolymer of vinylidenefluoridehexafluoropropylene.

15. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises magnesium, cupric oxide, and a copolymer of vinylidenefluoridehexafluoropropylene.

16. (Original) The reactive material of claim 1, wherein the reactive material comprises hafnium and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

17. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises aluminum, boron, and a copolymer of vinylidenefluoride-hexafluoropropylene.

18. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises zirconium and polytetrafluoroethylene.

19. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises bismuth, indium, tin, and potassium perchlorate.

20. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises cyclotetramethylene tetranitramine, cellulose acetate butyrate, and (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl)formal).

21. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises aluminum, potassium perchlorate, silicon, and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

22. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises bismuth, indium, tin, aluminum, silicon, sulfur, potassium perchlorate, bisazidomethyloxetane, glycidylazide plasticizer, and (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl)formal).

23. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises cyclotetramethylene tetranitramine, cellulose acetate butyrate, (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl)formal), aluminum, potassium perchlorate, silicon, and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

24. (Withdrawn) The reactive material of claim 1, wherein the reactive material comprises zirconium and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene,

and vinylidene fluoride.

25. (Currently Amended) The reactive material of ~~claim 16~~claim 1, wherein the reactive material is disposed within a munitions casing.

26. (Previously Presented) The reactive material of claim 25, wherein the reactive material is formulated to initiate upon impact with a target.

27. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises at least one fuel selected from the group consisting of a metal, a fusible metal alloy, an organic fuel, and mixtures thereof.

28. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises at least one oxidizer selected from the group consisting of an inorganic oxidizer, sulfur, a fluoropolymer, and mixtures thereof.

29. (Canceled)

30. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises at least one fuel selected from the group consisting of phenolphthalein, hexa(ammine)cobalt(III) -nitrate, and mixtures thereof.

31. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises a fusible metal alloy having at least one metal selected from the group consisting of bismuth, lead, tin, cadmium, indium, mercury, antimony, copper, gold, silver, and zinc.

32. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises a fusible metal alloy having a constituency of about 57% bismuth, about 26% indium, and about 17% tin.

33. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises at least one oxidizer selected from the group consisting of ammonium perchlorate, potassium perchlorate, potassium nitrate, strontium nitrate, basic copper nitrate, cupric oxide, iron oxide, bismuth trioxide, tungsten oxides, molybdenum trioxide, and mixtures thereof.

34. (Canceled)

35. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises at least one class 1.1 explosive selected from the group consisting of trinitrotoluene, cyclo-1,3,5-trimethylene-2,4,6-trinitramine, cyclotetramethylene tetranitramine, hexanitrohexaazaisowurtzitane, 4,10-dinitro-2,6,8,12-tetraoxa-4,10-diazatetracyclo-[5.5.0.0^{5,9}.0^{3,11}]-dodecane, 1,3,3-trinitroazetine, ammonium dinitramide, 2,4,6-trinitro-1,3,5-benzenetriamine, dinitrotoluene, and mixtures thereof.

36. (Previously Presented) The reactive material of claim 25, further comprising at least one binder selected from the group consisting of polyurethane, epoxies, polyesters, nylons, cellulose acetate butyrate, ethyl cellulose, silicone, graphite, and (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl) formal).

37. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises tungsten, potassium perchlorate, and a copolymer of vinylidenefluoride-hexafluoropropylene.

38. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises bismuth, indium, tin, potassium perchlorate, cellulose acetate butyrate, and (bis(2,2-dinitropropyl) acetal/bis(2,2-dinitropropyl)formal).

39. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive

material comprises aluminum, zirconium, and a copolymer of vinylidenefluoride-hexafluoropropylene.

40. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises magnesium, cupric oxide, and a copolymer of vinylidenefluoride-hexafluoropropylene.

41. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises hafnium and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

42. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises aluminum, boron, and a copolymer of vinylidenefluoride-hexafluoropropylene.

43. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises zirconium and polytetrafluoroethylene.

44. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises bismuth, indium, tin, and potassium perchlorate.

45. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises cyclotetramethylene tetranitramine, cellulose acetate butyrate, and (bis(2,2-dinitropropyl)acetal/ bis(2,2-dinitropropyl)formal).

46. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises aluminum, potassium perchlorate, silicon, and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

47. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive

material comprises bismuth, indium, tin, aluminum, silicon, sulfur, potassium perchlorate, bisazidomethyloxetane, glycidylazide plasticizer, and (bis(2,2-dinitropropyl)acetal/bis(2,2-dinitropropyl)formal).

48. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises cyclotetramethylene tetranitramine, cellulose acetate butyrate, (bis(2,2-dinitropropyl)acetal/ bis(2,2-dinitropropyl)formal), aluminum, potassium perchlorate, silicon, and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

49. (Withdrawn) The reactive material projectile of claim 25, wherein the reactive material comprises zirconium and a thermoplastic terpolymer of tetrafluoroethylene, hexafluoropropylene, and vinylidene fluoride.

50. (Previously Presented) The reactive material of claim 16, wherein the reactive material is present in a reactive material projectile at a mass that ranges from approximately 1.74 g to approximately 12.99 g.

51. (Previously Presented) The reactive material of claim 25, wherein the reactive material is present in the reactive material munition at a mass that ranges from approximately 1.74 g to approximately 12.99 g.